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# INSTRUCTION MANUAL FOR

# **MNS-Series**

# HEATING MANTLES



**PLEASE READ THIS MANUAL CAREFULLY BEFORE OPERATION**

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## **IMPORTANT SAFETY INSTRUCTIONS**

### **WARNING**

- 1) The vessel should match the size of the heating mantle exactly, it needs good heat conductor between the vessel & mantle.
- 2) The vessel should be clean, bad conductor can make the vessel burst.
- 3) The mantle has to be operated with vessel inside the mantle.
- 4) The vessel has to be with liquid inside.
- 5) The vessel must be resistant the respective operating temperature.
- 6) Keep the heating mantle dry. Even small quantities of liquids can destroy the heating elements.
- 7) Do not heat any substances above temperature which will cause hazards of explosion, implosion or release of toxic or flammable gases arising from the materials being heated.
- 8) Do not use in the presence of flammable or combustible materials or explosive gases.  
Do not use in the presence of pressurized or sealed containers.  
Fire or explosion may result, causing severe injury or death.
- 9) To avoid electrical shock, always use a properly grounded electrical outlet of correct voltage and current handling capacity.
- 10) The user has the responsibility for carrying out appropriate decontamination, if hazardous material is split on or inside the equipment.
- 11) The user shall be aware that, if the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
- 12) The instrument should be placed so, that handy operation of the ON-OFF power switch is possible, and that the mantle power cable can be disconnected from the main in case of risk.

## **OPERATION INSTRUCTIONS**

- \* Connect the instrument to a ground mains outlet, after ensuring that the Voltage is the same as given on the name plate. The MANTLE must be connected to an earthen (grounded) supply.

The Heat controller maintains a set temperature of the heater by turning the power ON and OFF over short time intervals. The greater the percentage of time the power is on, the higher the temperature. At the MAX position, power is on continuously and maximum temperature is obtained. From the OFF position, the knob may be turned either to the right or left. For fast heatup, turn the knob to Full position. When the desired temperature is reached, reduce the setting to the point where the temperature will be maintained. The pilot light is always on when the power is on.

**CAUTION :** When turning OFF the control be sure the knob is in STOP position and the indicator light is out.

The Magnetic Stirrer is meant to stir liquids with or without heating. Stirring mechanism :

1) Assure that the Magnetic Stirrer Speed Control is in OFF position. Insert a magnetic stirring bar in the container, containing the liquid to be stirred.

The stirring speed should be raised gradually (by turning the speed control knob slowly).

If the magnetic stirring bar is thrown to borders of container, this is the following reasons :

a too rapid rise in the Stirring Speed.

In this case, turn back to OFF and raise speed gradually.